

Introduction

Computational Intelligence (CI) has its origins in artificial intelligence. CI algorithms are often based on mimicking natural systems or processes such as biological neural networks, evolution, swarming of social organisms, and human cognitive processes. They include algorithms in machine learning (e.g., artificial neural networks, Bayesian networks, and support vector machines), fuzzy modeling, evolutionary computation (e.g., genetic algorithms), and other optimization algorithms such as simulated annealing, ant colony, and particle swarm methods. CI methods have been applied in structural engineering and mechanics for system identification, surrogate models for response prediction, structural health monitoring, structural control, and other tasks.

This special issue of the CACAIE journal is devoted to some recent research applying CI in structural engineering and mechanics. In response to a call for articles, 32 articles were submitted for possible publication. Each article was reviewed anonymously following the journal's rigorous review process by three to eight reviewers. The review process for articles co-authored by a Guest Editor was handled independently by the journal's Editor-in-Chief, Prof. Hojjat Adeli. After undergoing two rounds of review, eight articles that met the high standards of the journal were finally approved for publication, seven of which appear in this special issue

and the remaining articles will appear in a subsequent regular issue because of page limitations. Two other articles were accepted subject to revisions but the final revised manuscripts had yet to be submitted at the time of scheduling the special issue. The articles in this issue primarily involve fuzzy logic, Bayesian probability logic, and neural networks.

We sincerely thank the many reviewers of the submitted articles for their thoughtful reviews and constructive contributions. In addition, we thank all the authors of the submitted articles for their interest and effort in this special issue. We are also grateful to the Editor-in-Chief, Prof. Hojjat Adeli, for his encouragement, assistance, and support in producing this special issue.

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